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noticed that a single observation of the fixity of coronal rays (as, for instance, Bruhn's observation in 1860) is more convincing than any number of observations of apparent motion. For, seen as the beams must needs be (if beyond our atmosphere) through a medium whose condition is probably very variable during a total eclipse, we can readily understand that their aspect should sometimes seem to vary, or even that they should appear and disappear under the observer's eyes. But the fixity of a coronal beam cannot so be explained away; and those who are familiar with the history of eclipse observations are aware that many of the positive observations of this sort are often unexceptionable.

Now the great V-shaped gap in the corona last December was visible at widely separated stations; it is clearly recognisable in a photograph taken by the American observers in Spain; and it remained unchanged during the whole of totality.* A positive observation like this, relating to an object extending to a great distance (nearly half a degree) from the Moon's limb seems altogether unmistakable in its import. When it is added that the bright inner corona was perceptibly depressed where this V-shaped gap existed, results of very great interest are suggested.

Do not the observations made last December strongly support the view urged a year ago by many (myself among the number) that the corona is a solar aurora? *If the action of the radial solar forces which generate this aurora be supposed only to be more energetic over the spot-zone, and specially over the regions where spots actually exist, we should not only have an explanation of the so often noticed trapezoidal form of the corona, but also a suggested explanation of the observed association between the Sun-spot period and terrestrial auroras.*

## *On the Nomenclature of Matter exterior to the Sun's Globe.*
By Richard A. Proctor, B.A. (Cambridge).

I venture, while there is yet time, to urge the adoption of convenient and expressive names for the phenomena presented during solar eclipses.

The word *photosphere* serves a very useful purpose, and I do not know that any other could be devised which would be nearly so suitable. But to the names *chromosphere* and *leucosphere* there are grave objections.

In the first place, the relation between the prominences and the layer of coloured matter at a lower level is such as to render the

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* Since this was written I have had the opportunity of examining the best of Mr. Brothers' photographs (taken at Syracuse). This view, No. 5 of his series, far surpassing all other pictures of the corona in interest and value, shows the V-shaped gap opposite the south-eastern quadrant in an unmistakable manner. Indeed the gap is the most striking feature in the photograph. This disposes of the question.

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term *Sierra* employed by those who discovered the layer altogether more appropriate than such a word as Chromosphere. Secondly, the name Chromosphere implies that the coloured layer forms a spherical envelope, which the irregularity of its sufficiently well-defined outline shows not to be the case. Thirdly, the word is not properly formed, *Chromatosphere* being, I apprehend, the correct form.

The objections to the word *Leucosphere* are even greater.* Such a word could not possibly be employed in descriptive astronomy without explanatory notes. And further it can scarcely be considered appropriate. For λευκός means *white*, and σφαῖρα means sphere; but the inner corona, when seen under favourable conditions, has not appeared white, and certainly it is not spherical. Furthermore, grave doubts exist whether the implied distinction between the inner and outer parts of the corona is more than apparent. It may be added that in all other combinations of the kind—as *atmosphere*, *photosphere*, and so on—(*hemisphere* belongs to another class) the first word of the compound is a substantive. There seems a valid objection to a change of plan in this respect.

But the great objection against both *Leucosphere* and *Chromosphere* consists in the utter unfitness of either for the purposes of descriptive writing. In this respect they differ wholly from the word *Photosphere,* which refers to a relation not likely to enter into descriptive passages; but objects such as those for which the names Chromosphere and Leucosphere have been suggested require expressive names. I can see no reason why the fine word *Sierra* should not be restored to its place in our books of astronomy; nor why, if it shall appear that a real distinction exists between the brighter and fainter parts of the corona, the former should not be called (as already by Schellen and Secchi) the *corona* and the latter the *glory*. Or else Professor Airy's mode of describing them might well be adopted, and one called the *ring-formed corona,* the other the *radiated corona.*

## *A Solar Fog-bow.* By R. C. Carrington.

On the morning of November 27, at five minutes to ten, I saw a curious bow formed in a mist, which was just rising; the Sun was shining brightly, and on the principle of our motto, "*Quicquid nitet notandum,*" I took immediate note of it. It was the smallest bow I have seen, not more than twenty-five paces from where I stood, and it measured thirty-five paces from bow to bow. I stept a yard at a pace, very nearly. The colour was white, like a lunar bow. But what was more remarkable was the appearance of a

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* It was, of course, only in jest that at the last Meeting I compared the sound of the word to that of *lycosphere* (a wolf-sphere).

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